CLAIMS

What is claimed is:

1. A composition comprising a purified antimicrobial polypeptide and hydroxyethyl starch.

2. The composition of Claim 1, wherein said purified antimicrobial polypeptide and said hydroxyethyl starch are in solution.

3. The composition of Claim 1, wherein said purified antimicrobial polypeptide is a purified defensin.

4. The composition of Claim 2, wherein said purified defensin is present in a concentration of about 0.01 to 1000 mg/l.

5. The composition of Claim 2, wherein said purified defensin is present in a concentration of about 0.1 to 5 mg/l.

6. The Composition of Claim 2, wherein said hydroxyethyl starch is present in a concentration of about 1 to 200 g/l.

7. The composition of Claim 2, wherein said purified defensin is present in a concentration of about 0.01 to 1000 mg/l and said hydroxyethyl starch is present in a concentration of about 1 to 200 g/l.

8. The composition of Claim 3, wherein said defensin is selected from the group consisting of SEQ ID NOs: 37-95.

9. The composition of Claim 3, wherein said defensin is encoded by SEQ ID NO:37.

10. The composition of Claim 1, further comprising a cell surface receptor binding compound.

11. The composition of Claim 10, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P and combinations thereof.

12. A composition comprising an antimicrobial polypeptide and an impermeant anion selected from the group consisting of lactobionate and gluconate.

13. The composition of Claim 12, wherein said antimicrobial polypeptide and said impermeant ion are in solution.

14. The composition of Claim 12, wherein said antimicrobial polypeptide is a purified defensin.

15. The composition of Claim 14, wherein said purified defensin is present in a concentration of about 0.01 to 1000 mg/l.

16. The composition of Claim 14, wherein said impermeant ion is lactobionic acid, and wherein said lactobionate is present in a concentration of about 1 to 500 mM.

17. The composition of Claim 14, wherein said impermeant anion is gluconate, and wherein said mannitol is present in a concentration of about 1 to 500 mM.

18. The composition of Claim 14, wherein said defensin is selected from the group consisting of SEQ ID NOs: 37-95.

19. The composition of Claim 14, wherein said defensin is encoded by SEQ ID NO:37.

20. The composition of Claim 14, further comprising a cell surface receptor binding compound.

21. The composition of Claim 20, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P and combinations thereof.

22. A composition comprising a purified antimicrobial polypeptide and an *ex vivo* internal organ.

23. The composition of Claim 22, wherein said purified antimicrobial polypeptide is in solution at a concentration of about 0.01 to 1000 mg/l.

24. The composition of Claim 22, wherein said *ex vivo* internal organ is selected from kidneys, hearts, lungs, small intestines, large intestines, livers, and pancreases.

25. The composition of Claim 22, wherein said antimicrobial polypeptide is encoded by SEQ ID NO:37.

26. The composition of Claim 22, further comprising a macromolecular oncotic agent selected from the group consisting of hydroxyethyl starch, dextran, and glucose.

27. The composition of Claim 22, further comprising an impermeant anion selected from the group consisting of gluconate and lactobionate.

28. The composition of Claim 22, further comprising glutathione.

29. The composition of Claim 22, further comprising a cell surface receptor binding compound.

30. The composition of Claim 22, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P.

31. A method comprising:

a) providing:

i) cellular material selected from the group consisting of internal organs, skin, and gametes; and

ii) a solution comprising a purified antimicrobial polypeptide;

b) storing said cellular material in said solution comprising a purified antimicrobial peptide.

32. The method of Claim 31, wherein said purified antimicrobial polypeptide is in solution at a concentration of about 0.01 to 1000 mg/l.

33. The method of Claim 31, wherein said cellular material is an internal organ.

34. The method of Claim 33, wherein said internal organ is infused with said solution.

35. The method of Claim 34, wherein said internal organ is selected from the group consisting of kidneys, hearts, lungs, small intestines, large intestines, livers, and pancreases.

36. The method of Claim 33, wherein said internal organ is a human organ.

37. The method of Claim 31, wherein said purified antimicrobial polypeptide is a defensin selected from the group consisting of SEQ ID Nos: 37-95.

38. The method of Claim 31, wherein said antimicrobial polypeptide is encoded by SEQ ID NO:37.

39. The method of Claim 31, wherein said solution further comprises a macromolecular

oncotic agent selected from the group consisting of hydroxyethyl starch, dextran, and glucose.

40. The method of Claim 31, wherein said solution further comprises an impermeant anion selected from the group consisting of gluconate and lactobionate.

41. The method of Claim 31, wherein said solution further comprises a cell surface receptor binding compound.

42. The method of Claim 41, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P and combinations thereof.

43. A composition comprising a cell surface receptor binding compound and hydroxyethyl starch.

44. The composition of Claim 43, wherein said cell surface receptor binding compound and said hydroxyethyl starch are in solution.

45. The composition of Claim 44, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P and combinations thereof.

46. A kit comprising:

a) a vessel containing a solution comprising a compound selected from the group consisting of lactoboinate and hydroxyethyl starch; and

b) a vessel containing an antimicrobial polypeptide.

47. The kit of Claim 46, wherein said antimicrobial polypeptide is BNP-1.

48. The kit of Claim 46, wherein said vessel containing an antimicrobial polypeptide

further comprises a cell surface receptor binding compound.

49. The kit of Claim 48, wherein said cell surface receptor binding compound is selected from the group consisting of IGF-1, EGF, NGF, and substance P.

50. The kit of Claim 46, further comprising instructions for combining said solution and said antimicrobial polypeptide to form an organ storage solution.

51. A process for producing a storage solution comprising:

a) providing a solution comprising a compound selected from the group consisting of hydroxyethyl starch and lactobionate and a purified antimicrobial polypeptide; and

b) combining said solution with said purified antimicrobial polypeptide to form a storgae solution.

52. The process of Claim 51, further comprising the steps of providing at least one cell surface receptor binding compound and combining said at least one cell surface receptor binding compound with said solution and said antimicrobial polypeptide.